

**CLAIMS**

1 An actuation system for a plurality of electrically actuated devices,  
comprising a pulsed light-source of variable pulse frequency directed to a plurality of  
5 actuation gateways; each gateway being adapted to supply an actuation voltage  
above a threshold-value to an associated device when illuminated by light pulsed at  
a trigger frequency for that device; each said gateway comprising photovoltaic  
converter means for converting pulsed incident light to a pulsed electric current of  
corresponding frequency; and each said gateway comprising frequency-sensitive  
10 transformer means for transforming the voltage of the pulsed current to a higher  
voltage above the threshold value for the associated device when the current  
frequency is at a trigger frequency.

2. A system according to claim 1 wherein the transformer means comprises a  
15 ferroelectric transformer and the trigger frequency is a resonant frequency of that  
transformer.

3. A system according to claim 1 or claim 2 wherein the output voltage of the  
photovoltaic converter means is 3 to 5 volts.

4. A system according to claim 1, claim 2 or claim 3 wherein the higher  
voltage is 600 to 800 volts.

5. A system according to any one of the preceding claims in which the trigger  
25 frequency is a band of not more than about 3kHz within the range 10kHz-40kHz.

6 A system according to any one of the preceding claims in which the trigger  
frequencies of devices to be operated independently are separated by at least  
3kHz.

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9) 7. A system according to any one of the preceding claims comprising optical pathway means for directing light from the light source to the plurality of actuation gateways.

5 8. A system according to claim 7 wherein the optical pathway means comprises a branched network of optical fibres connected by optical couplers.

9. A system according to claim 8 wherein the optical couplers provide optical power of 40 to 50mW to each actuation gateway.

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10. A method of actuating a plurality of electrical devices, comprising providing an actuation system for the said devices according to any one of the preceding claims, and selectively actuating a device by illuminating the actuation gateways with light pulsed at a frequency that corresponds to the trigger frequency of the  
15 selected device.

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